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600-618 COLUMBIA ROAD, UPHAMS CORNER, MA  
TRANSPORTATION IMPACT STUDY AND ACCESS PLAN

SEPTEMBER, 1987

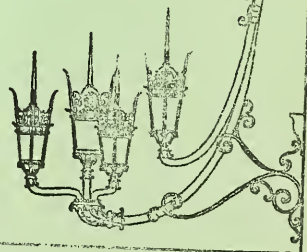
prepared for:

Heath Financial Resources  
160 Commonwealth Avenue  
Boston, MA 02116

by:

Howard/Stein-Hudson Associates  
312 Savin Hill Avenue  
Dorchester, MA 02125

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## I. INTRODUCTION

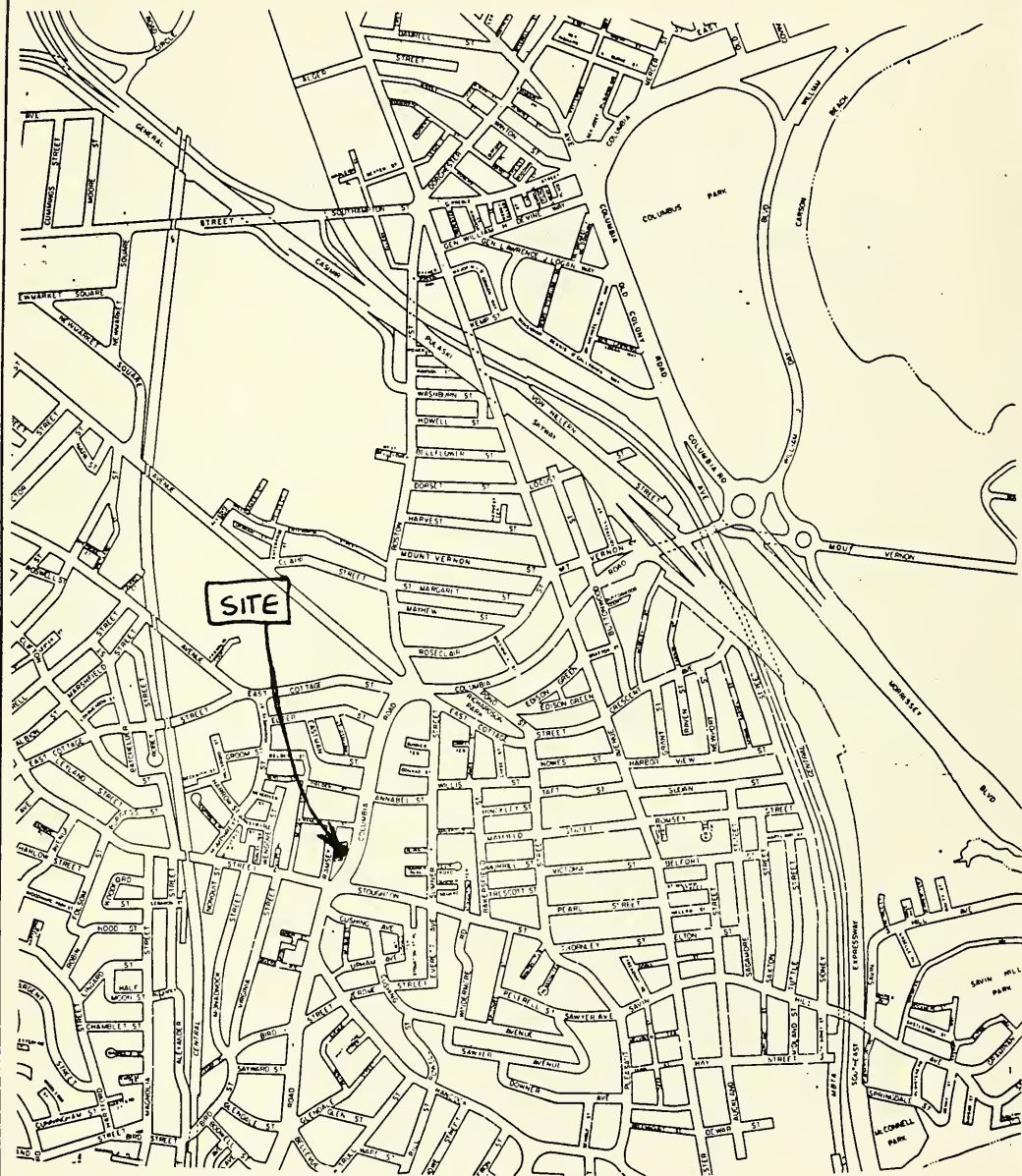
The 600-618 Columbia Road project consists of 71 loft condominium units to be constructed on a site located near the intersection of Columbia Road and Stoughton/Dudley Street in Dorchester (Upham's Corner, see Figure 1). The project involves rehabilitation of an existing brick building which once housed the first supermarket built in the United States, but which later was converted to warehouse use. The building, the upper stories of which are now vacant, houses an operating laundromat/cleaner on the ground floor. The proposed project will add an additional 17,200 square feet of locally oriented retail space on the ground level to the existing 2,500 square foot laundromat.

Each dwelling unit in the proposed redevelopment will provide electrical service, one bathroom and a mini kitchen. Beyond this, any improvements would be provided by the new owners. Parking will be provided in 49 garage spaces which will be accessed from Ramsey Street, to the rear of the property. Off-street servicing will be provided within the garage for the residential units, with loading for the commercial space from the front doors on Columbia Rd.

Immediately to the rear of the site is a 30,000 square foot parcel which has been acquired by the City of Boston in eminent domain proceedings for a municipal parking lot to serve Uphams Corner business establishments. This lot will provide a total of 136 parking spaces, including 10 handicapped spaces.

Land uses in the surrounding area are commercial in nature on the main streets of Columbia Rd., Stoughton St., and Dudley Street (Uphams Corner Business District). Residential uses predominate on the side streets. The presence of a cemetery lessens on-street parking demand across Columbia Rd.





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Dorchester, Massachusetts 02125  
(617) 288-4975

FIGURE 1  
SITE LOCATION







from the site.

Because the developer is seeking several variances from the Zoning Board of Appeals, and because of the number of dwelling units, it has been determined that a Transportation Impact Study and Access Plan be prepared. To scope this plan, a meeting was held with the Boston Transportation Department on August 19, 1987. The study which follows responds to the scope agreed upon at that meeting and verified in a letter from Commissioner Dimino on September 9, 1987.

## II. EXISTING CONDITIONS

### Study Area Definition

At the scoping meeting, it was determined that traffic impacts are not a major concern for this project. Thus, a traffic study area was not delineated. However, in terms of parking, it was agreed to look at not only the proposed parking on site, but also on-street parking in the immediate area, and the new municipal lots to the rear of the building.

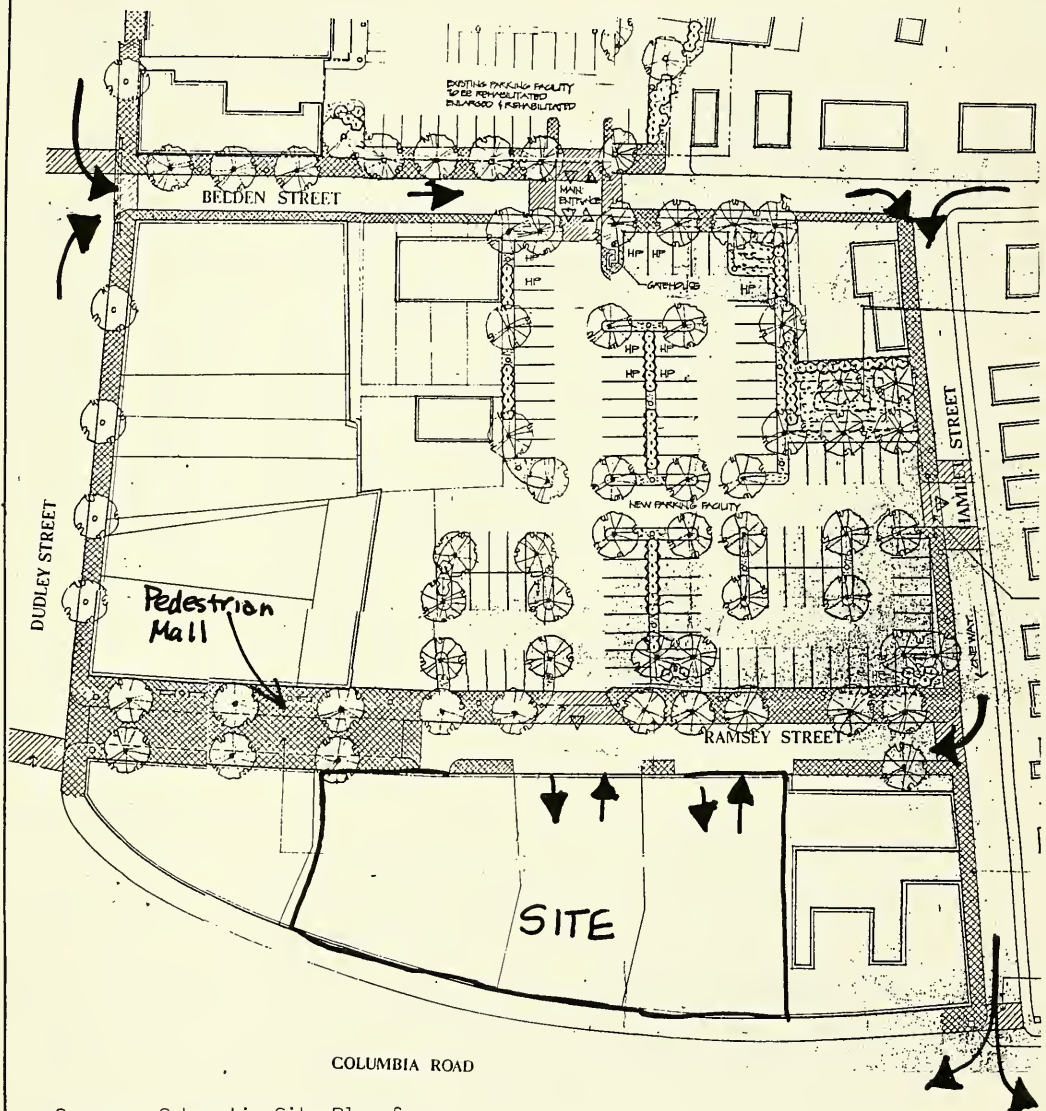
### Vehicular Access

As shown in Figure 2, vehicular access to the site will be provided from the rear of the property on Ramsey Street. In conjunction with the municipal parking lot redesign program, half of Ramsey Street will be closed to auto traffic to create a pedestrian way from the parking lot entrance to Dudley Street. To access Ramsey Street, drivers will turn from Dudley Street to Belden Street, then right on Hamlet Street, which is one-way southbound, then right again to Ramsey. Egress will be via Ramsey to one-way Hamlet Street to Columbia Road.

### Transit Access

The project site is presently served by two MBTA bus routes as well as





Source: Schematic Site Plan for  
Uphams Corner Parking Facility  
Rojas, Vogt & Lee, March, 1987

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FIGURE 2

VEHICULAR ACCESS TO SITE





the Midlands Branch MBTA commuter rail line. Bus Route 15 travels up Dudley Street to connect to Ruggles Station on the Orange Line, and Route 16 travels up Columbia Road to connect to Andrew Station on the Red Line. Service was recently increased on Route 15 in conjunction with the opening of the new Orange Line. Direct Midlands Branch commuter rail service to South Station was recently restored to Uphams Corner with a \$0.75 fare. The station is one block north of the site on Dudley Street. The Uphams Corner area is also identified as a key neighborhood activity center in the MBTA Circumferential Transit Feasibility Study currently underway. The purpose of this study is to improve crosstown bus and transit connections within a five mile radius of downtown Boston. Its short and long term recommendations may result in improved transit service to Uphams Corner in the future.

### III. FUTURE TRIP GENERATION

In order to estimate the future impacts of the Columbia Road development, the numbers of persons and vehicles expected to be added to the transit and street systems were derived as explained below.

#### Trip Generation

Trip generation by mode (for persons and vehicles) was determined for the residential and commercial uses as described below, and summarized in Table 1.

For the residential uses, vehicular trip rates contained in the Institute of Traffic Engineers (ITE) 1985 manual, Trip Generation, Third Edition were converted into person trips as the basis for the analysis. Because the ITE trip rates are based in most cases on developments where no transit service is available, they are not representative of trip patterns in a dense urban area like Boston's. For this reason, the vehicular trip rates for condominium units of 5.2 average vehicles per day (total in and out) were converted to an estimate of 8.0 person trips in and out based on 1.4 persons per car



identified as the ITE car occupancy and a 10% allowance for non-auto travel in the ITE rates. Peak hour travel is estimated proportionally to values set forth in the ITE manual.

In the case of the Columbia Road development, these trip rates are extremely conservative because the spaces have actually been designed as "live-work" spaces. For this reason, it is unlikely that peak hour trips would be as high as a typical residential condominium development because the residents would tend to work at home. Nevertheless, the typical residential rate has been chosen as a "worst case" analysis.

Mode use was based on the BRA source document: "Diversity and Change in Boston's Neighborhoods", 1985. This report indicated mode split for work trips in the North Dorchester neighborhood to be:

- Drive or carpool -- 47%
- Transit -- 39%
- Walk or other -- 14%

Again, the mode choice estimate is judged to be conservative, since it is expected that a higher proportion of residents than normal would work at home, and would thus fall into the "walk or other" category. Car occupancy of 1.5 for work trips was derived from the 1983 Boston Transportation Department report "Parking in Central Boston: Meeting the Access Needs of a Growing Downtown."

For the retail space, it was not appropriate to apply any of the ITE retail use rates, because they were based on suburban developments with large parking areas which are very different from the type of neighborhood oriented retail space envisioned here. In addition, the sample sizes in the ITE surveys were so small that it would not be reliable to convert the vehicle trips into person trips as was possible for the residential uses which were





Table 1

## COMMERCIAL AND RESIDENTIAL TRIP GENERATION BY MODE

<u>Use</u>	<u>Time Period</u>					
	<u>24-hour</u>		<u>A.M. Peak Hour</u>		<u>P.M. Peak Hour</u>	
	<u>Arrivals</u>	<u>Departures</u>	<u>Arrivals</u>	<u>Departures</u>	<u>Arrivals</u>	<u>Departures</u>
Drive:						
Residential:						
Persons	134	134	4	19	19	9
Vehicles	95	95	1	14	14	6
Commercial:						
Persons	180	180	2	1	5	11
Vehicles	65	65	1	1	4	8
Total:						
Persons	314	314	6	20	24	20
Vehicles	180	180	2	15	18	14
Transit (persons):						
Residential:	111	111	3	16	16	8
Commercial:	70	70	1	1	4	9
Total:	181	181	4	17	20	17
Walk (persons):						
Residential:	40	40	1	6	6	3
Commercial:	25	25	1	1	2	3
Total:	65	65	2	7	8	6
Total Trips:						
Persons:	560	560	12	44	52	43
Vehicles:	180	180	2	15	18	14



based on a reliable sample size. Thus, an average person trip rate of 18.3 daily person trips in and out per 1,000 square feet of Gross Leasable Area was derived from estimates contained in the Copley Place Final Environmental Impact Report (September, 1980) and subsequently used in other EIR's. This estimate is also judged conservative, since it was based on the presence of the Copley Place retail space as the major attractor of trips to the site, as will not be true in this case. The retail use here is proposed to be basically neighborhood services oriented toward the residents. The same modal split used for the residential trips was also applied to the commercial trips. Car occupancy of 1.3 for non-work trips was obtained from the Boston Transportation Department 1983 report.

Summarized, the development will generate a total of 560 person arrivals and 560 departures over the course of an average 24 hour period, and 180 vehicle arrivals and 180 vehicle departures. In the a.m. peak hour, there will be 2 vehicle arrivals and 15 departures, and in the p.m. peak hour, 18 arrivals and 14 departures. The remainder of person trips are accounted for by transit and walk trips, as well as those who work at home.

#### Relation to Parking Supply and Demand

In densely populated Boston neighborhoods such as Uphams Corner, parking availability is always a real concern. In this neighborhood in particular, the lack of off-street parking has always been an issue both with merchants and residents. For this reason, the City of Boston Real Property Department acquired a 30,000 square foot lot immediately to the rear of the site for development as a 99-space municipal parking lot. As part of the project, Real Property will also upgrade an adjacent 37-space municipal lot to provide a total of 136 spaces, including 10 handicapped spaces.

The proposed development will provide 49 residential parking spaces in a



ground level garage within the building. Parking will be included in the purchase price of the unit for those who require a space. This capacity meets the desired City zoning requirement of .7 spaces per unit. This is consistent with average car ownership of .73 units/household for North Dorchester in 1985, according to the BRA report. In fact, the household size in this development will probably be smaller than average, and per household car ownership lower than average due to the relatively small size of the units, and the fact that the space is "live/work" variety, leading to more single occupant households. Unit size is summarized as follows:

	<u>Number</u>	<u>Percent</u>	<u>Cumul %</u>
● 500-599 square feet:	2	3%	3%
● 600-699 square feet:	16	23	26
● 700-799 square feet:	11	15	41
● 800-899 square feet:	22	31	72
● 900-999 square feet:	16	23	95
● 1000-1060 square feet:	4	5	100
Total Units:	71	100%	100%

As shown above, only 5% of the units are above 1000 square feet in size, and 40% are under 800 square feet. The smaller units would be comparable to "studio" units in size, and the larger to one-bedroom units. The developer has kept the units rather small as one means of reducing the price. He has indicated, however, that units can be combined to create larger units if wished by purchasers; this, of course, would reduce the total number of units below the 71 cited here. In sum, the 49 residential parking spaces are seen as adequate to meet the needs of the building at all times of day.

Visitor parking for the residential units is estimated as a peak demand of 7-21 spaces (based on Urban Land Institute estimate of .1-.3 spaces per unit peak visitor demand in The Dimensions of Parking, Second Edition, 1983). The residential visitor parking would probably peak in the evening hours, and would easily be accommodated in the municipal lots. Parking for the commercial



uses is estimated as up to 17 employee spaces and up to 15 customer spaces, (based on the 1983 Boston Transportation Department "Parking in Downtown Boston" report methodology). Peak commercial demand would primarily occur during the work day and could also be accommodated in the municipal lots as well as on Columbia Road in front of the building and across the street in front of the cemetery.

Loading for the residential uses will be accommodated in the underground parking garage. Designed with an interior loading dock, the garage also has 20' doors which can easily accommodate vans and trucks. Loading for the commercial space will take place from Columbia Road; there is no back door into the buildings from Ramsey Street. The types of uses envisioned will be service businesses, not expected to generate heavy loading demands.

#### IV. PROJECT IMPACTS

##### Traffic Flow

As stated above, neither the commercial nor the residential component of the project is anticipated to generate significant peak hour traffic. The proposed circulation pattern is expected to be sufficient to accommodate the garage flows without undue impacts on the surrounding streets.

##### Parking

Off-street parking supplied within the building's garage is sufficient to meet the demands of the residential units, and this parking will be reserved solely for resident use. Visitor, retail employee, and customer parking can be accommodated within the municipal lots at the rear of the site and on-street on Columbia Road.

##### Pedestrians

The project is expected to help restore much needed pedestrian activity





in the Uphams Corner business district, both from its residents walking to and from home and the train station and neighborhood businesses, and from patrons of the commercial establishments. The laundromat currently operating on the site is accepted by the neighbors as a well-run, secure establishment; the additional commercial uses will reinforce this positive activity.

At the rear of the building, the developer has agreed with the City of Boston to provide and maintain at his expense security lighting on the building both for the pedestrian way proposed to connect the municipal lot with Dudley Street, and for the portion of the remainder of Ramsey Street behind the building. This lighting should help to improve pedestrian safety in the evening hours, and thereby result in improved usage of the lot and improved business for merchants in evening shopping hours.

#### Construction Activity

It is anticipated that construction will be completed within a one year time frame. Most of the construction activity will be accommodated from Ramsey Street, and dumpsters to accommodate debris removed from the building will be located on Ramsey. The crew will consist of around 20 people at maximum periods, and around 10-15 on an average day. Construction workers can park on Ramsey Street and, as soon as possible, within the building garage. There will be a need to use one lane of Columbia Road as a staging area for a few weeks during construction. This will be coordinated with the Boston Transportation Department's Construction Management Team at the appropriate time.

#### V. MITIGATING MEASURES/ACCESS PLAN

To a large extent, the transportation impacts of this project have been mitigated in the design. No significant impacts on vehicular traffic are anticipated. The type of housing and small average size of the units will



lead to small households and will minimize parking demand per household. The building will accommodate all resident parking on-site, and the parking supply has been expanded to meet the City of Boston Zoning Code requirement of .7 spaces per unit. Visitor and customer parking will easily be accommodated in the municipal lot behind the building and on-street in front of and across the street from the building on Columbia Road. Pedestrian impacts will be unquestionably positive, aided by the restoration of day and evening population to the now vacant building and the developer's contribution of lighting and pedestrian amenities to support the City's investment in municipal parking. The developer will coordinate his construction activities with the City's new Construction Management process, and established licensing procedures.

The access plan process also provides for an appropriate level of post-implementation monitoring so that the impacts of development can be tested over the long-term. In this regard, the developer will cooperate with the Boston Transportation Department and the BRA as may be required.





